Sure Electronics

GPS Demo Board
User's Guide

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User's Guide

Contents

Chapter 1. Brief Introduction of GPS demo board 2

1-1. Product 2

1-2. Accessories 3

Chapter 2. Getting Started 4

Chapter 3. Schematics and Board Layout 5

3-1 Schematics 5

3-2 Physical Dimension 7

Chapter 4. Contact US 8

Chapter 1. Brief Introduction of GPS demo board

1-1. Product

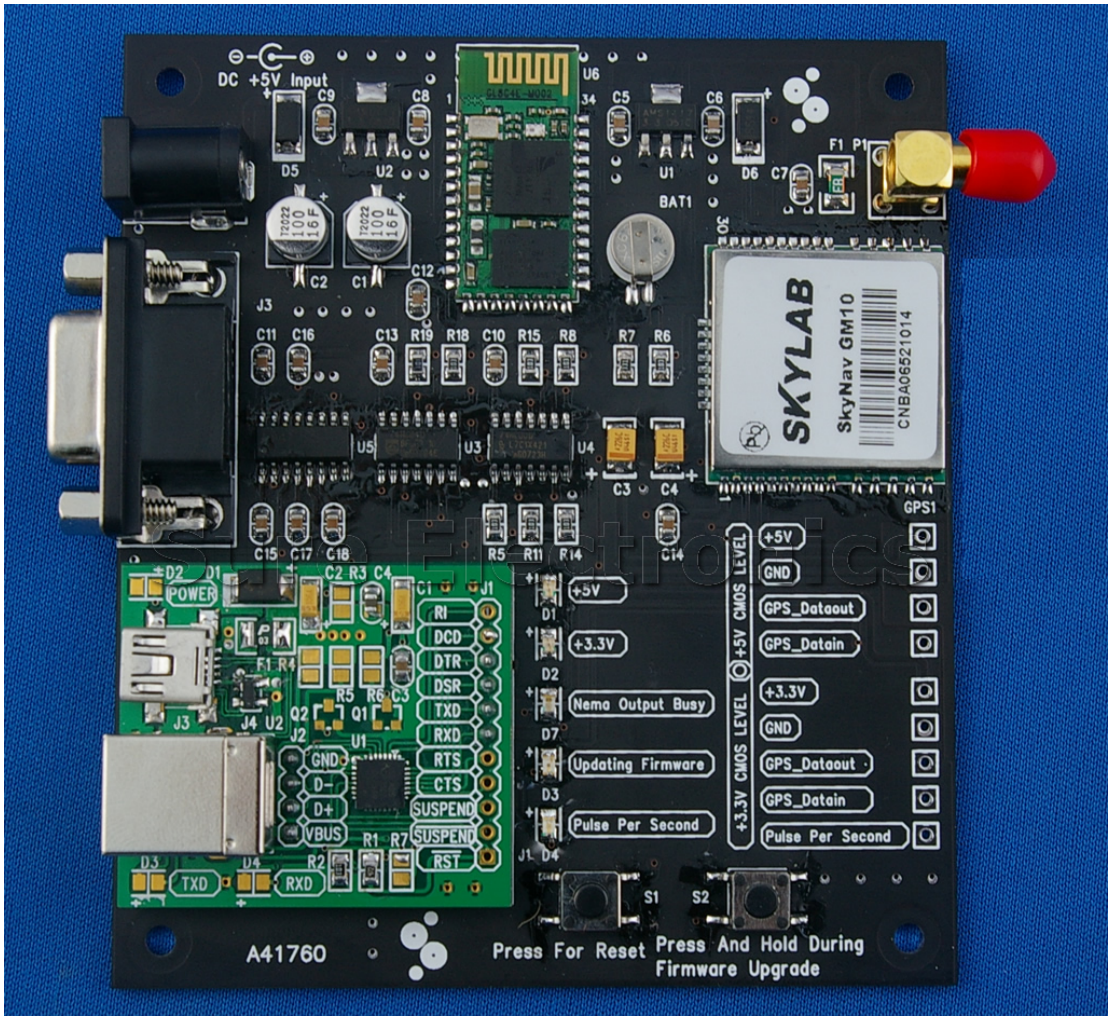


Figure 1 Produce (Top View)

1. Great for GPS based tools or appliance development.

2. Three useable ports, USB->UART Bridge based on CP2102, legacy RS232 port, and an optional Bluetooth simulated RS232 port.

3. Module compatible with Ublx TIM-LC module in pin out.

4. Module use uNav 8130 baseband processor, 1008 RF frontend, 4th generation, -152dbm sensitivity.

5. Low power consumption

6. Could locate with the antenna inside the room and 1 meter away from the window (normally when over 6 satellites in view site).

7. Orion Analyzer software and U-Center software provided, Baud rate, NMEA output package selectable. (GPS module baud rate is constant 9600bps.)

8. Pulse per second signal selectable. (Not in the standard Rom, could be flashed into the module, we would not provide any warranty if the module failed in update.)

9. All 3 communication method could work together. All 3 ports could control the module and accept NMEA data.

10. USB port and Bluetooth port can not modify the baud rate, user can only modify NMEA output package through those 2 ports.

11. Through RS232 port, all parameters could be modified.

12. Update may cause module fail permanently, and will cause warranty void. If user wants to do update, user must use a RS232 port (not USB bridged type) to update firmware.

1-2. Accessories

Figure 2 Accessories

1. One active antenna

2. One USB Connecting Line

Chapter 2. Getting Started

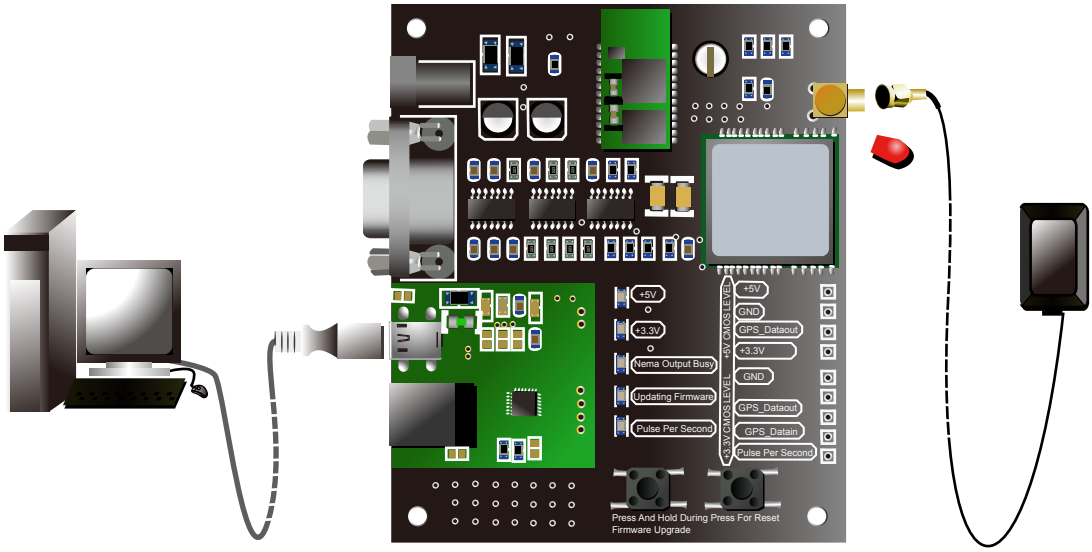


Figure 3

1. Connect the SMA connector of the Active antenna to the demo board and tie the screw (Shown in Figure 1). Put the antenna to outdoor and keep the top side face the sky. The antenna has integrated magnet, so it can be magnetized on any iron surface such like roof of your car. Try to place it with a large viewable angle of the sky, if covering with any metal material, the signal would be weak.

You could only use 3.3V type active antenna with this demo board, 5V active antenna will not work. Keep the top of the antenna face the sky, or the signal may be too weak. Most active antennas are anti water type, they could work in raining days.

2. Connect the USB->UART Bridge based on CP2102 to your host computer with the USB connector. And tie miniusb to the demo board. Power on your host computer and install the driver.

This GPS module is compatible with NMEA2.1 protocol, so it could work with most GPS software which will accept NMEA protocol. For testing use, you could find Orion Analyzer software and u-center evaluation software in the accessory CD. It is only for testing and studying use. We do not provide any support on how to use Orion Analyzer or u-center, please view the user's guide from Orion Analyzer and u-center carefully. And notice don't try update firmware with Orion Analyzer or u-center, it may damage your module.

Your demo board should work after those steps, if you have any further questions, please read the schematic and user's guide carefully, and you could also email to support@sure-electronics.net, we will try to solve all questions.

Chapter 3. Schematics and Board Layout

3-1 Schematics

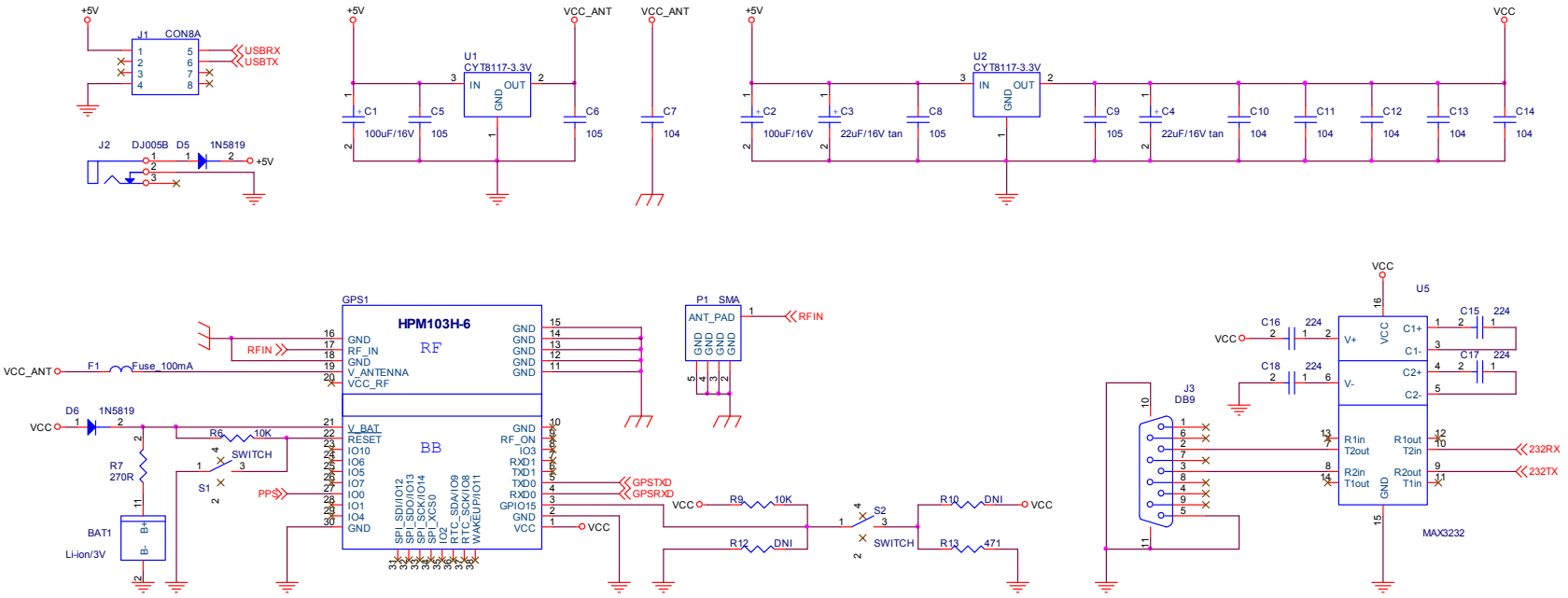


Figure 4

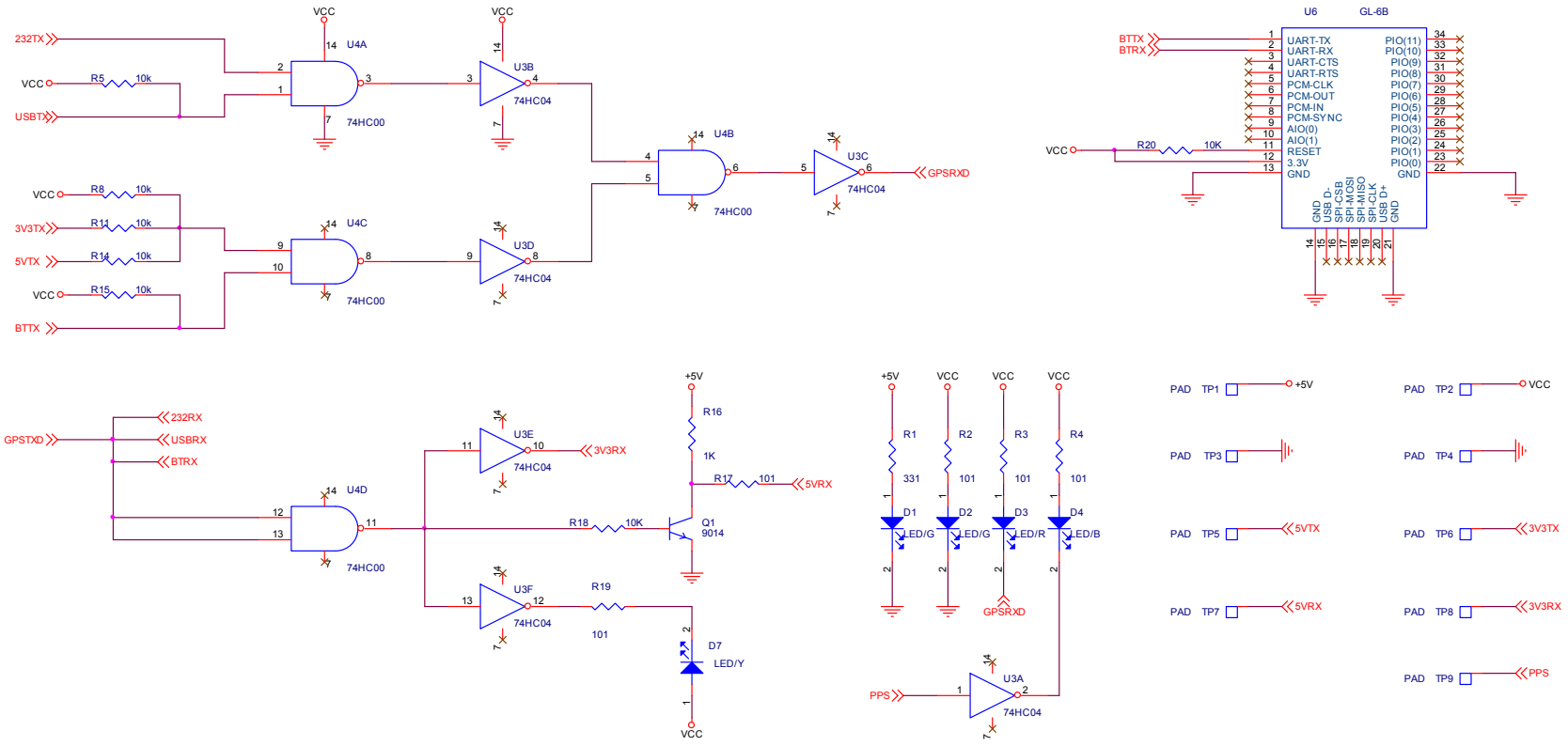
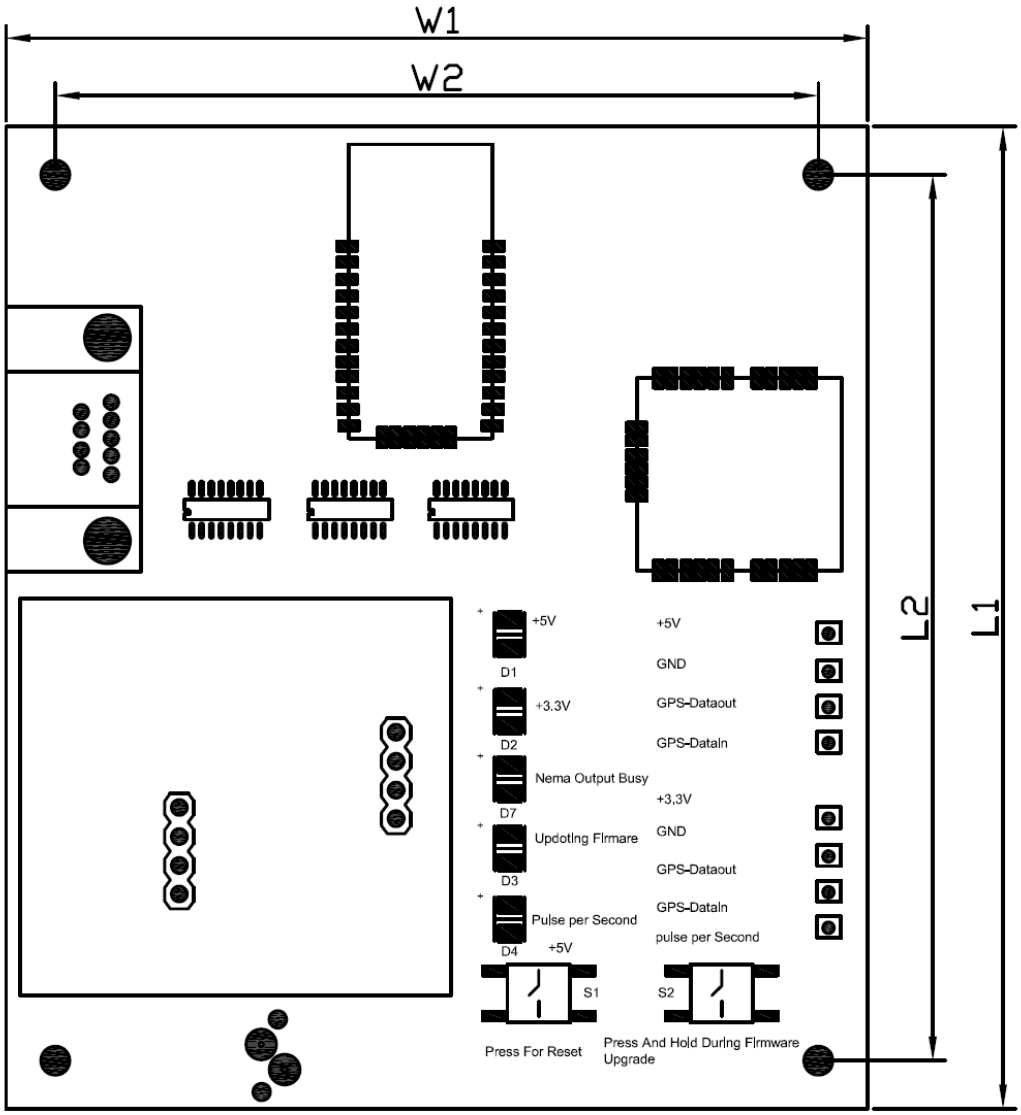

232TX
VCC
R5
10k
USBTX
U4A
74HC00
U3B
74HC04
R8
R11
R14
R15
3V3TX
5VTX
BTTX
U4C
U3D
U4B
U3C
GPSRXD
U6
GL-6B
UART-TX
UART-RX
UART-CTS
UART-RTS
PCM-CLK
PCM-OUT
PCM-IN
PCM-SYNC
AIO(0)
AIO(1)
RESET
3.3V
GND
PIO(11)
PIO(10)
PIO(9)
PIO(8)
PIO(7)
PIO(6)
PIO(5)
PIO(4)
PIO(3)
PIO(2)
PIO(1)
PIO(0)
R20
GPSTXD
232RX
USBRX
BTRX
U4D
U3E
3V3RX
U3F
R16
1K
R17
101
5VRX
R18
10K
Q1
9014
R19
D7
LED/Y
+5V
R1
R2
R3
R4
331
D1
D2
D3
D4
LED/G
LED/R
LED/B
U3A
PPS
PAD
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9

Figure 5

3-2 Physical Dimension



Symbol	W 1	W 2	L1	L 2
Inch	3500	3100	4000	3600
mm	88.90	78.74	101.6	91.44

Figure 6

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